

18. Illustrate the role of hemoglobin in carrying oxygen and carbon dioxide in the blood and the factors that affect its affinity.
19. Outline on protein deficiency disorders. Describe the symptoms and causes of Kwashiorkor and Marasmus.
20. Enumerate the sources and functions of iodine and magnesium. Add a note on their RDA and deficiency symptoms.
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NOVEMBER/DECEMBER 2025

**FBC53/CBC53 — PHYSIOLOGY AND
NUTRITION**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

Define stroke volumes

2. A person has blood type B-. What antigens and antibodies are present in their blood?
3. Mention one physical and one chemical process of digestion.
4. Name the enzymes present in saliva and their action.
5. What is GFR and the normal range for young adults?
6. State two forms in which carbon dioxide is carried in blood.
7. Brief the function of lipids in the body.



8. What are essential fatty acids? Give one example.
9. State one major function of Vitamin A in the body.
10. Name one biological function of folic acid

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Compare and contrast the composition of plasma and lymph.

Or

- (b) Describe the Rh blood group system and discuss its clinical importance.

12. (a) Explain the role of the gallbladder in digestion.

Or

- (b) Enumerate the process of protein digestion in the stomach.

13. (a) Brief on oxygen toxicity and how oxygen therapy is used in medical practice?

Or

- (b) Illustrate the structure and function of the kidney.

14. (a) What are essential fatty acids? Explain their importance in maintaining health.

Or

- (b) Explain the RDA and the nutritional significance of carbohydrates in the body.

- (a) Review the functions and the factors affecting the absorption and utilization of Vitamin K.

Or

- (b) Discuss the sources, RDA and functions of Thiamine and Riboflavin.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Summarize the generation of electrical impulses at the SA node and describe their conduction pathway through the heart.

17. Elaborate the role of the liver, pancreas and intestinal juice in intestinal digestion

